

Insights in Genetics and Genomics

Review Report

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Article Title: New Score Tests for Equality of Variances in the Application of DNA Methylation Data Analysis

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Submission Date: February 22, 2017

Review Status: Accepted

How to Cite this Report: Wuyi Liu. Review Report for: New Score Tests for Equality of Variances in the Application of DNA Methylation Data Analysis [Version 1, Awaiting Peer Review]. Insights Genet Genomics. (2017) 1: 3.1

Review Report

This article was designed to evaluate the new score tests for equality of variances in the analysis of DNA Methylation Data. They evaluated the performance of the AWvar test and proposed three improved AWvar tests (denoted as iAWvar. Levene, iAWvar.BF, and iAWvar. Ltrim), based on Levene, BF, and Ltrim, respectively. Their simulation studies and a real DNA methylation data analysis compared the performances of AWvar, Levene, BF, Ltrim, iAWvar. Levene, iAWvar. BF, and iAWvar.Ltrim. Those simulation studies and a real DNA methylation data analysis showed that (1) AWvar test worked well under normality assumption; (2) the three improved AWvar tests had much higher testing power than AWvar if normality assumption is violated; and (3) iAWvar. Levene, iAWvar.BF and iAWvar. Ltrim had slightly better performance than their corresponding counterparts: Levene test, Brown-Forsythe test, and trimmed-mean-based Levene's test. The overall experimental methodology and procedures were valid and there were few misspelling mistakes or improper expressions.

I have read this submission. I believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.